

Interactive comment on “The non-conservative distribution pattern of organic matter in Rajang, a tropical river with peatland in its estuary” by Zhuoyi Zhu et al.

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Received and published: 5 December 2019

Associate editor's comments: bg-2019-157. The non-conservative distribution pattern of organic matter in Rajang, a tropical river with peat land in its estuary. Lead author: Zhuoyin Zhu.

It has not been possible to find 2 reviewers to provide Biogeosciences with advice whether to accept your M/S into the Discussion Phase. We received one positive review some time ago, but a second reviewer has proved elusive despite multiple invitations. On the advice of the Chief Editor I have looked at your M/S and formed the view that it should be accepted into the Discussion phase subject to modification to

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address the following issues, primarily of Figure presentation, and minor typographical problems. Figure 1a. Needs to have more geographical detail, place names, countries and island names should to be included. Figure 1b. The size of this Figure needs to be bigger so that the location of the sample sites can be discerned. The shading used does not clearly differentiate between the "potential area of Peat Swamp" and "mangroves". What is the significance of the dotted line? Does it represent the land sea boundary (high-tide mark). Its significance needs to be explained. The symbols for the estuary and freshwater stations are indistinguishable also. They need to be made larger and more distinctive. Figure 2a-c. The symbols need to be larger and clearer. It is very hard to discriminate between the observations from the Rajang, Igan, and marine sites. Also, how can some points appear to "come and go"? In Figure 2 b there is a sample point at Conductivity side at approx. 64 uS/cm but it's missing in Figures 2a and 2c. Similarly on the Salinity side of the figure: In Figures 2 a and 2c there is a single point in the salinity in the range 0 to 10, yet in Fig. 2b there are 4 points? The plotting of the freshwater on a much larger scale (Conductivity) axis than the estuarine samples (Salinity axis) seems to me to give undue weight to the minor differences between all the freshwater samples. Perhaps they should be averaged and shown with standard deviation, as the average freshwater end member on the Salinity axis. Do the minor differences in Conductivity have any spatial pattern along the Rajang River? The captions to Figures 4 and 5 should explain that the dashed line is the conservative mixing line. The text needs to explain why only S1 was used in constructing the mixing line when potentially all the marine sites (S1, S22, S23, and S33) could have been used. Using the average of all these marine sites as the marine end member, and the average of the 8 freshwater sites in the Rajang River as the freshwater end member would, in my opinion, provide a more defensible mixing line as well as giving standard deviations of the end members, and thus an indication of uncertainties in the line location. The second sentence of the caption to Figure 5 is unclear ("were" instead of "where"?) and needs to be revised. The text needs to be carefully read and corrected for minor mis-spellings and poor grammatical construction. See lines 163, 214, 223,

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224,206, 246, 254/5, 284, 299, 313/4.

Phillip Ford 12 November 2019

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2019-157>, 2019.